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DISCOVERY OF AN ANCIENT GUAYUSA PLANTATION IN COLOMBIA

RICHARD EVANS SCHULTES

I.

Ilex Guayusa Loes.* represents one of the caffeine yielding species of *Ilex* which is used, and has been from early times, as a stimulant, emetic and medicine (Schultes, 1972). It is also one of the most poorly understood species of the genus.

Loesener described *Ilex Guayusa* from sterile material as a "species nova atque dubia" (Loesener, 1901). Flowering material was not available to him in 1901. Nor has any flowering material, to the best of my knowledge, been collected until very recently. Notwithstanding the uncertainty that Loesener himself expressed concerning the validity of his species, *Ilex Guayusa* has always been accepted as a "good" species.

Actually, there have been very few specimens collected of this locally important plant. It is now apparently native to eastern Ecuador and adjacent Peru and Colombia. Although the English plant-explorer Richard Spruce was thoroughly familiar with guayusa, he seems never to have collected it during his assiduous collecting in Amazonian Peru and Ecuador 120 years ago (Schultes, 1978; Spruce, 1901).

There is in the herbarium at Kew an unidentified collection of *Ilex* made during the last century in Guilaquiza and Zamora, Ecuador (*E. C. Lehmann* 5581). I have studied the specimen, which has a few remnants of dried fruits still adhering to the twigs, and I believe that, while it may possibly represent *Ilex Guayusa*, it can be so determined only with strong reservation.

In 1939, Dr. Erik Asplund of the Riksmuseet in Stockholm made an excellent collection of *Ilex Guayusa* in Tena, Provincia Napo-Pastaza, Ecuador (*E. Asplund* 9485). This collection is sterile.

**Ilex guayusa* Loesener in Nov. Acta C. L. C. G. Nat. Cur. 78(1901)310.

Several significant collections, all from cultivated sources, were made by my former student, Dr. Homer V. Pinkley, in 1966 in eastern Ecuador (*H. V. Pinkley 199, 454, 455, 456*) at Dureno, Río Aguarico; Puerto Napo; between Tena and Archidona, Guayura, respectively. All are sterile. Notes on these collections, preserved in the Economic Herbarium of Oakes Ames in the Botanical Museum of Harvard University, state that the leaves are prepared as a tea drunk as a "health tonic" and amongst the Jivaro as an "emetic."

II.

Ilex Guayusa has, until recently, not been known from Colombia. Several collections are now available, however, and indicate that this tree is recognized and used medicinally and does grow in the lowland (more or less 2100 feet altitude) areas of the Putumayo on the eastern slopes of the Andes near the Ecuadorian frontier.

COLOMBIA: Comisaría del Putumayo, Valley of Sibundoy. "Obtained at a distance by a Sibundoy medicine man. Medicinal. *Guayusa*." October 31, 1962. *M. L. Bristol 352-A2*. Comisaría del Putumayo, Pepino, near Mocoa. Alt. 680 m. "Cultivated." May 7, 1972. *R. E. Schultes 26359*. Comisaría del Putumayo, Río Mocoa, Alto Afán, near Mocoa. Alt. 700 m. May 8, 1972. *Schultes 26360*.

The *Bristol* collection constitutes a few leaves purchased from a medicine man of the Kamsá Indian tribe in the highland Valley of Sibundoy (8500 feet altitude). *Ilex Guayusa*, of course, does not grow at this altitude, but the leaves are acquired by trade or purchase from lower, warmer regions. The two *Schultes* collections demonstrate for the first time that the species does indeed form part of the Colombian flora. These collections are preserved in the Economic Herbarium of Oakes Ames, Harvard Botanical Museum, and in the Herbario Nacional de Colombia in Bogotá.

III.

It is suspected that guayusa was formerly employed over a far greater area than today (*Schultes, 1972*).

We know that the Jesuits exploited *Ilex Guayusa* as a medi-

cine over three centuries ago in the Río Marañon of Peru. Padre Juan Lorenzo Lucero wrote in 1682 that the Jivaro Indians "... put together these evil herbs [*Banisteriopsis*, *Brugmansia* and other narcotics] with guañusa and tobacco, also invented by the devil, and allow them to boil until the small remaining quantity of juice becomes the quintessence of evil, and the faith of those who drink it is rewarded by the devil with the fruit of malediction, and always to the great misfortune of many . . ." (Jiménez, 1889). Later, in 1738, an Italian missionary wrote that the priests employed it as a stomach tonic. At the same time, in 1739, Padre Andrés de Zarate reported that one product of the Jesuit missions was "guayusa." The Jesuits exported guayusa from their missions and sold the leaves in Quito (five leaves for half a real) as a medicine (Figueroa, 1904).

When the Jesuits were expelled from Ecuador in 1766, the business which they had established with guayusa as a cure of venereal disease fell apart. This did not affect, however, the use of *Ilex Guayusa* amongst the Jivaro and Kanelo of the Ríos Napo and Pastaza; these natives continued to cultivate it.

It was at this time, in 1857, that Spruce encountered guayusa extensively under cultivation amongst these same natives at Antombós, near Baños, in Ecuador. Spruce's report (Spruce, 1908) is a most detailed record of guayusa and deserves, therefore, to be quoted in full. I am unable to explain why Spruce failed to make herbarium specimens of *Ilex Guayusa*, unless his reason for neglecting this task was absence of flowers or fruits on the trees which he found. He wrote: "Instead of Cupána or Guaraná [*Paullinia Cupana* HBK.], the Zaparos and Jibaros, who inhabit the eastern side of the Equatorial Andes, have Guayúsa, a plant of very similar properties, but used by them in a totally different way. The Guayúsa is a true Holly [*Ilex*], allied to the maté or Paraguay tea (*Ilex paraguayensis*), but with much larger leaves. I was unable to find it in flower or fruit, and cannot say if it be a described species. The tree is planted near villages, and small clumps of it in the forest on the ascent of the Cordillera indicate deserted Indian sites. The highest point at which I have seen it is at about 5000 feet above the sea, in the gorge of the Pastasa below Baños, on an ancient site called Antombós, a little above a modern cane-farm of the same name.

There, in 1857, was a group of Guayusa trees, supposed to date from before the Conquest, that is, to be considerably over 300 years old. They were not unlike old Holly trees in England, except that the shining leaves were much larger, thinner and unarmed.

“When I travelled overland through the forest of Canelos, and my coffee gave out, I made tea of guayúsa leaves, and found it very palatable. The Jibaros make the infusion so strong that it becomes positively emetic. The guayúsa-pot, carefully covered up, is kept simmering on the fire all night, and when the Indian wakes up in the morning he drinks enough guayúsa to make him vomit, his notion being that if any food remain undigested on the stomach, that organ should be aided to free itself of the encumbrance. Mothers give a strong draught of it, and a feather to tickle the throat with, to male children of very tender age. I rather think its use is tabooed to females of all ages, like caapi on the Uaupés.”

An hitherto apparently unpublished Spruce note on guayúsa, preserved at Kew, in a letter to the “Agent of Ecuador Land Company (Mr. G. P. Pritchett) in a reply to enquiries about the feasibility of forming a colony of Europeans in Forests of Canelos (written at Baños, Dec. 1857)” gives additional information on guayúsa and would seem to support the suspicion that the centre of distribution of the plant was the eastern slopes of the Ecuadorian Andes (Schultes, 1978). “I am not sure that the Guayúsa, which the wild Inds plant near their houses might not successfully compete in the English market against the inferior sorts of Tea. This is the leaf of a sort of holly, perfectly difft from the Maté or Paraguay Tea, tho somewhat allied to it, and it has much the same aromatic flavour without the bitterness of Chinese tea. I have used it for weeks of thogt instead of tea, & I believe you have drunk [?] some.”

Although the centre of use of *Ilex Guayusa* in the 18th Century appears to have been the eastern Andean slopes of Ecuador and northern Peru, the plant was recorded from Colombia, somewhat to the north of this area.

A missionary, Padre Juan Serra (Serra, 1956), who worked in the Putumayo-Caquetá region of Colombia from 1756 to 1767, wrote that guayusa was used by the head Franciscan priest,

Padre José Berrutieta, at Santa Rosa. In view of the extraordinary detail of Padre Serra's report, it may be worth transcribing it here in full.

"The day after the arrival of the President [head priest], I saw strings being hung out in the patio and hanging from them bundles of leaves. I went into the kitchen and asked their purpose. A woman answered: 'Father, this is guayusa. The President drinks it twice a day, and we have hung it in the sun to dry.' I told her that I would like to try it, and she said that she would give me some in the afternoon. Later . . . I tasted it; but as it was already sweetened, I did not drink more, but told her: 'I do not like it sweet, but unsweetened, in order to discover its true taste.' Later, they brought me more, and I drank a whole cupful. It has the color of dark honey, and five leaves are enough to make a chocolate pot full of its juice. Its taste is like tea but finer and more pleasant. When I drank it, I began to sweat and expectorate so much that I was obliged to change my habit, and within half an hour coughed enough phlegm to fill a large cup. These effects seemed to me to be very good. I went to the President and asked him about guayusa. He said that the beverage was excellent for the treatment of venereal diseases, that it . . . cleansed the blood and improved the digestion and appetite, because, when taken in the morning, one does not feel hunger until the afternoon. It strengthened the body and removed all impurities through perspiration and phlegm. All these effects are true, and I have experienced them many times. Father Berrutieta told me also that guayusa taken with honey caused women to become fertile, and, if the honey was that of the bee called *apate*, the woman, if married, would become pregnant immediately. This fact is well known and proven in Quito and the highlands. The Jesuits brought the plant from their mission and sold it in Quito at five leaves for a half real. I asked him where it might be found, and he told me that in the village of La Concepción, Fr. José Garvo had a big tree, but in Pueblo Viejo, the first town one reaches from here, about four days distant, there is a grove of more than one league in area, entirely of guayusa trees. I at once wrote the name of the village and the name of the tree, in order not to forget them, in order that I might provide myself with supplies for my journey and destination."

When Padre Serra arrived at Pueblo Viejo in December, 1756, he "... asked the ... Mayor about Guayusa. He said that there was a great deal, and that if I so wished he would have some brought, because it grew in the forest somewhat outside the town. I told him that I wanted to go there myself and see the guayusa trees. He said that I could not go, that the mountain growth of brush was dense, but I insisted, and he assigned to me three Indians, each with a machete ... We took with us two *saparos* or baskets ... We arrived at the guayusa grove, which is on a plain. The guayusa tree is the most beautiful and luxuriant tree that I have ever seen. It grows to be rather large in girth, so much so that three men could not encircle it, and tall in proportion, with a heavy crown. The trunk is ash-color, like the trunk of the poplar, the leaf a gentle and delightful green. So much so that, seeing it, I considered the hardship of the journey well worth while. From the first tree I came to, I took some leaves and began to eat them to find out their taste. I found that it was very agreeable, somewhat similar to tea, but finer and more pleasant. Seeing that there were many seedlings in the field, while the Indians gathered leaves ... I ... cut six internodes of bamboo, and, with the machete, took out eighteen seedlings with roots, placing three in each internode with earth from the same place. I took them with me and, in each village of the Putumayo, I planted three guayusa trees, and they all grew, so that, at the end of three years, they were giving many leaves. In this way, all the priests were provided with guayusa for their own consumption." When Padre Serra finished his stay in Colombia and went to Peru, he took half a hundredweight of guayusa leaves with him, as well as a supply to display in Bogotá and Popayán.

That guayusa was well known in the Colombian Putumayo in those years is attested also by the reports of several Franciscan missionaries who had a mission on the Río Putumayo slightly downstream from its confluence with the Río Sucumbíos (Cuervo, 1894; Zawadzky, 1947). "Among the medicinal plants cultivated by our missionaries ... for the relief of the poor Indians and themselves, the guayusa tree is outstanding. A description of this tree is being sent, at his request, to Don Pedro de Valencia, treasurer of the Royal Mint at Popayán. Its leaves,

which are the most valued part of the plant, are eagerly sought in various parts of New Granada by those acquainted with its beneficial properties as a purgative and an aid to digestion."

About a century later, Padre Manuel María Albís (Albís, 1936) wrote about his trips to the Macaguaje Indians along the Ríos Mecaya, Senseya and Caucaya, in the same Putumayo-Caquetá area of Colombia. Of guayusa, he reported that "it is hot and used in poisonings; the burned leaves, when mixed with barley and honey, are given to women suffering amenorrhoea; when boiled and mixed with *yoco*, a caffein-containing liana [*Paullinia Yoco* R. E. Schult. et Killip] the preparation is used to cure dysentery; the liquid is used for stomach aches."

Patiño (Patiño, 1968) insinuates that guayusa "grows both wild and cultivated." Pinkley (pers. comm.) also believes that the species may grow in a truly wild state, although he has never encountered it outside of cultivation. Except for the vague statement by Padre Serra that "it grew in the forest," I find no evidence in the literature to suggest its occurrence in an undoubtedly wild state. All references indicate that guayusa, when not planted, grows as an escape or vestige of former plantings around abandoned human habitation sites. Patiño further intimates that, since guayusa, according to early reports, grew so prolifically in the Colombian Putumayo-Caquetá region; that since Padre Serra's experiments in guayusa propagation were so easily successful; and that since, in Pueblo Viejo, there was a grove "more than a league in size" — guayusa might be still found in the area. Although I once doubted that any vestiges of these ancient plantings still exist in the Putumayo, Patiño's suspicion has proven to be correct.

IV.

In May, 1972, together with Dr. Andrew T. Weil of the Botanical Museum of Harvard University and Mr. Enrique Hernández of the Universidad de Nariño, I was able to make two collections in southern Colombia. Both are sterile, but both are extremely interesting from the point of view of history and of economic botany.

The first (*Schultes 26359*) was from a small bushy shrub cultivated in the dooryard of a *curandera* who lived in Pepino, a small town near Mocoa. She regularly pruned the bush, selling the leaves to Indian medicine men in the nearby highland village of Sibundoy and to the public herb market in the city of Pasto. They are valued medicinally as a “tonic.” The source of the collection *Bristol 352-A2* was undoubtedly this bush, since our questioning always elicited the same answer: that this *curandera* was the only source of guayusa leaves for export in the whole Mocoa area.

The *curandera* informed us that the original material for her bush came from “large and ancient trees” in the very old town of Pueblo Viejo near Mocoa. Pueblo Viejo is now a very tiny and poor hamlet completely off the main highway and, in 1972 at least, accessible only on foot.

We decided to make the trip. Upon arrival, we began to enquire about guayusa. Few people knew the plant, but the school teacher found that several of the school children were aware of the location of a number of large trees. They agreed to guide us. A walk of an hour and a half over rude and abandoned, muddy mule trails brought us to Alto Afán. There we were rewarded by finding tall trees of great age which, from their manner of growth, indicated definitely former cultivation. The trees were sterile, but the natives maintained that they did flower and that the flowers were “tiny and greenish white.”

The eldest farmers living in Alto Afán—some of them apparently of great age—assured us that the trees were large and old when they were children.

We have not the slightest doubt that these trees are vestiges of the guayusa plantations described by Padre Serra, who encountered a grove in Pueblo Viejo “of more than one league in area” some 200 years ago.

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PLATE 40



Plate 40. One of the large, old trees of *Ilex Guayusa* in Alto Afán, Pueblo Viejo, Putumayo, Colombia. Photograph: R. E. Schultes.

PLATE 41



Plate 41. The present inhabitants of Pueblo Viejo know that the leaves of *Ilex Guayusa* have presumed medicinal value, but they apparently do not use the plant. One of the trees in the ancient abandoned guayusa plantation in Alto Afán, Pueblo Viejo, Putumayo, Colombia. Photograph: R. E. Schultes.